Replace the paragraph on page 6, lines 4-14, with the following paragraph:

The present invention is also directed at a fire suppression and indication system for use in an aircraft. The present invention proposes two methods to deal with aircraft cargo fires. The first is a container based extinguishing system. The second is an aircraft based system. The aircraft includes a cockpit, a control panel in the cockpit, and a storage area. The system includes a plurality of storage units located at predetermined positions in the storage area, a transmitter associated with each storage unit and configured to transmit a first signal upon detection of the fire condition, at least one receiver configured to detect the first signal and configured to provide a second signal indication detection of the fire condition, and a fire suppression device configured to discharge a fire suppressant material into the storage unit upon detection of the fire condition.

Replace the paragraph on page 11, lines 18-23, with the following paragraph:

Fig. 3 shows schematically one possible arrangement of the transmitter 104. The transmitter 104 comprises a transmitter casing 108 (not shown in this view), a printed circuit 110, an IR diode 112, a first switch 114, and a power source 116. The IR diode 112 is illuminated when the first switch 114 is closed. The first switch 114 may be closed when the fire detection and suppression device 102 is activated. This process will be explained below. The power source 116 can be a battery, such as a lithium cell.

Replace the paragraph on page 12, lines 1-16, with the following paragraph:

Optionally, the transmitter 104 can also include any of the following components: an oscillator/driver 118, a red light emitting diode (LED) 120, a test button 122, or a second switch 124. The second switch is shown in a series arrangement, but it could

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also be arranged in parallel to the first switch, if desired. The oscillator/driver 118 will allow the IR diode 112 to pulse at a predetermined frequency, such as 40 kHz, or multiplexed. If a continuous signal is desired, the oscillator/driver 118 can be eliminated. The LED 120 and test button 122 will allow personnel to verify that the circuit 110 is functioning properly. The second switch 124 will allow the transmitter 104, when configured to operate on two separate frequencies, to measure a different occurrence than the first switch 114. For example, the second switch 124 can be a bimetallic switch that operates independent from the first switch 114. In this arrangement, the first switch 114 may activate a signal indicating the discharge of the fire detection and suppression device 102, and the second switch 124 may activate a second signal when the temperature inside the container reaches a predetermined temperature. This information will inform the personnel whether a fire or fire condition was detected, and whether the fire or fire condition has been suppressed.

a4 cont'd

Replace the following paragraphs staring on page 13, line 11 and ending on page 14, line 14, with the following paragraphs:

In certain preferred embodiments, the fire detection and suppression device 102 for a given container (or area) may be a unitary device of relatively simple and inexpensive design. Exemplary embodiments of such devices are illustrated in Figs. 4-10. Generally, the fire detection and suppression device 102 includes a fire bottle 130, a discharge tube 132, and a fire detection component or system 133 arranged in said discharge tube 132. The fire bottle 130 is a relatively simple pressurized vessel 134 having a mouth or opening 135, and the fire suppression material or extinguishing agent 136 in the bottle 130 is applied to the container 300 through a discharge port 138 in the

a5 cont.

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discharge tube 132. The fire detection component includes a thermal plug 148, a rod 152, and a seal 154, all of which will be described below. In some embodiments the transmitter 106 is fixed to the discharge tube 132.

In one preferred embodiment, as seen in Fig. 4-6, the discharge tube 132 is a hollow cylinder 140 with an open end 142 proximal to the fire bottle 130 and a partially closed end at the distal end 144 of the cylinder 140. The open end 142 is pressed, glued, or otherwise attached to an aluminum fitting 143, which is screwed into the mouth or opening 135 of the pressurized vessel 134. An o-ring 137 assists in completing a seal between the aluminum fitting 143 and the mouth 135. The discharge port 138 is located in the hollow cylinder 140 at a predetermined distance from the fire bottle 130.

a5 cont

A hollow cylindrical guide 146, which may be six inches long depending on the size of the hollow cylinder 140, is disposed at the distal end 144 of the cylinder 140. The hollow guide 146 and hollow cylinder 140 are preferably made from a material that does not rapidly conduct thermal energy.

A thermal fuse plug 148 may be located between the distal end 142 of the hollow cylinder 140 and the guide 146. Alternatively, the fuse plug 148 may be inside the guide 146. In this preferred embodiment, the fuse plug 148 is designed to melt at a predetermined temperature.

Replace the paragraph on page 21, lines 5-14, with the following paragraph:

As seen in Fig. 12, the transmitter 104 may be installed in the cover 310 of a container 300 or sewn into a fire resistant blanket 410 to be used to cover palletized freight. This blanket 410 may also serve as a fire suppressant material retention device.

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When installed on a container 300 the transmitter can be narrowly focused and adjusted so that the receiver 106 located overhead in the aircraft will only "see" the container 300 directly below it. When installed on a pallet 400, the signal from the transmitter may be adjusted so that it may trigger any receiver 106 in its field of view. The transmitter 104 installed on containers can use a different channel or made of transmissions than those installed on pallets. In a preferred embodiment, the receiver 106 may be installed directly over each storage unit position in the cargo area 210.

Replace the paragraph starting on page 24, line 21, and ending on page 25, line 7, with the following paragraph:

The actuator plunger 622 may be activated by a burst of pressurized gas from the pressurized agent storage container 603. This burst may be triggered when the alerting transmitter 104 signals its receiver 106 which, in turn, signals the control unit 500. Once triggered the agent storage container 603 and distribution system (manifold in the aircraft) supplies pressurized gas to activate the actuator plunger 622. A drawback to this system is that two lines from the agent pressure storage container 603 would be required, one to supply gas to activate the plunger 622 and another to provide extinguishing agent to the popup device 600 and thence to the storage container 300. Alternatively, an electrical solenoid or electrically fired gas generating device (squib) could be used to activate the plunger.

Replace the following paragraphs starting on page 25, line 17, and ending on page 26, line 12, with the following paragraphs:

In operation, a significant temperature increase, such as from a fire in a container 300 or under the blanket 410 on a pallet 400, will close the bimetallic switch 114 in the

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transmitter. This will send a signal to the receiver 106 located overhead in the aircraft. When excited by a signal from a transmitter 104, the receiver 106 will transmit an electrical signal to the control unit 500, which consists of an amplifier and multi-channel relay. The control unit 500 determines which channel has been triggered. If it received a signal from a Channel 1 source (i.e., a pallet) it sends a signal to a control panel 230 in the cockpit where it announces that a thermal event has taken place in a pallet 400. If the control unit receives a signal from a Channel 2 source (i.e., a container), it sends a pulse to the activation device 601 associated with the popup device 600, located underneath the involved container 300. This signal causes the popup device 600 to extend and press against the base 330 of the container 300. This seals the popup device 600 to the bottom of the container base 330, in which hole 332 has been provided to allow fire suppressant material to disperse into the container 300. Then, the desired preselected charge of fire suppressant material is released into the container.

The crew can monitor the status of the fire or fire condition and respond accordingly. For example, if the fire continues, one of the crew can replace and activate another agent storage container 603 to supply additional fire suppressant material to the container.

IN THE CLAIMS:

Please cancel claims 28-40, without prejudice or disclaimer, amend claims 1, 3, 6, 18, 19, 23, and 26, and add new claims 43-57 as follows:

1. (Amended) A system for detecting and suppressing a fire condition in a storage unit for storing freight in a storage area, the system comprising:

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